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The thanks of the Academy were presented to the Knight of Glin for his donation.

Dr. Apjohn read a paper by Dr. Andrews, "on the Heat developed during the Formation of the Metallic Compounds of Chlorine, Bromine, and Iodine."

The author confines his attention in the present paper to the combinations of zinc and iron, which metals, he shows, will not combine at ordinary temperatures with chlorine, bromine, or iodine, unless water is also present. The reactions which take place when an excess of iron in a state of fine subdivision is agitated with any of the three elements just mentioned, are rather complicated,—a sesqui-compound ($Fe_2 Cl_3$, $Fe_2 Br_3$, $Fe_2 I_3$) being first formed, which afterwards combines with an additional atom of iron, and becomes converted into a proto-compound ($Fe_3 Cl_3$, &c.) The heat developed during this process consequently arises from three distinct causes:—first, the union of Fe_2 with Cl_3; secondly, the solution of the compound so formed in water; and thirdly, its conversion into $Fe_3 Cl_3$ by its combination with Fe. The heat arising from the two latter causes being determined by separate experiments, and taken from that obtained during the original reaction, the remainder will be evidently the heat due to the union of Fe_2 and Cl_3; and by a similar method, the heat developed during the union of Fe_2 with Br_3, and of Fe_2 with I_3, may also be determined. Referred to the number of degrees of Fahrenheit's scale, through which one grain of water would be heated by the combination of one grain of iron in each case, the heat evolved during the formation of $Fe_2 + Cl_3$ is 3246°; during that of $Fe_2 + Br_3$, 2302°; and of $Fe_2 + I_3$, 834°. The reaction which occurs when zinc is treated in a similar manner is much simpler, and the heat developed, referred to the zinc as unit, is 2766° for $Zn + Cl$; 2284° for $Zn + Br$; and 1474° for $Zn + I$.

The author also proves, by direct experiments, that when solutions of the sesqui-chloride, sesqui-bromide, or sesqui-iodide of iron are converted into the corresponding proto-compounds of iron, by combining with iron, the heat in all cases is the same for the same quantity of iron dissolved.

The method by which these numerical results were obtained, and the apparatus employed, are minutely described in the original communication.

Dr. Kane inquired how far he considered the final results obtained by Dr. Andrews to affect the ideas of thermo-chemical combination, founded on the experiments of Despretz and Dulong?

Dr. Apjohn stated that the results of Dr. Andrews were quite opposed to their experiments, as he found the quantities of heat not to bear any relation to the atomic weight of the combining bodies.

The Secretary read a paper by the Rev. Edward Hincks "on the Chronology of the Eighteenth Dynasty of Manetho."

The object of this paper is to determine the period at which the eighteenth dynasty of Manetho flourished, by the recorded dates, in months of the wandering year, of facts, which must, from their nature, have occurred at known seasons of the solar year. Three such dates are brought forward: two of them relating to the time of the commencement of campaigns; and the third, to that of the inundation: and they all concur in depressing the epochs of the eighteenth dynasty about 350 years below those, which the Champollions and Rosellini have adopted. An approximation to the dates of the accession of many monarchs of the dynasty is attempted. For example, the year B. C. 1278 is fixed upon as very nearly, if not exactly, that of the accession of Amenothph III.

Mr. Mallet having become acquainted with the recent improvements effected by Mr. Bessemer in the art of glass-